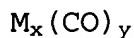


1. (Amended) A method of performing a one-pot organic reaction, which includes carbon monoxide as reactant without the use of an external CO gas source, comprising preparing a reaction mixture containing a non-catalysing solid CO releasing compound which is a metal carbonyl of the general formula I,



wherein M is a metal, x is an integer, y is an integer, a non-metal substrate compound and a metal catalyst; wherein the metal carbonyl is not complexed with or bonded to the non-metal substrate prior to preparing said reaction mixture; and exposing said reaction mixture to an energy source to release carbon monoxide from the CO releasing compound, wherein carbon atoms of the released carbon monoxide form a bond with the non-metal substrate compound.

3. (Amended) A method of performing a one-pot organic reaction, which includes carbon monoxide as reactant without the use of an external CO gas source, comprising preparing a reaction mixture containing a non-catalysing CO releasing compound which is a formamide of the general formula II,



wherein R₁ and R₂ independently can be H, or an optionally substituted, linear or branched alkyl, aryl or alkylaryl,

a non-metal substrate compound and a metal catalyst; and exposing said reaction mixture to an energy source to release carbon monoxide from the CO releasing compound,

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wherein carbon atoms of the released carbon monoxide form a bond with the non-metal substrate compound.

5. (Amended) The method according to any of the preceding claims wherein the reaction mixture in addition to the non-metal substrate compound also contains an organic reactant.

6. (Amended) The method according to claim 5, wherein the organic reactant is selected from the group consisting of amines, alcohols, thiols, hydrides, alkenes, alkynes, boric acids, boronic acids, carboxylate ions, malonate-type ions, enolate-type ions, azide ions, cyanide ions, halide ions, phosphines R_3P wherein R_3 is aryl, heteroaryl and or alkyl, metal-organic compounds.

7. (Amended) The method according to claim 1, wherein M is selected from Mo, W, Mn, Cr, and Co.

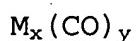
8. (Amended) The method according to claim 1, wherein the metal carbonyl is selected from the group consisting of $Mo(CO)_6$, $W(CO)_6$, $Mn_2(CO)_{10}$, $Cr(CO)_6$, and $Co_2(CO)_8$ or derivatives thereof.

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9. (Amended) The method according to any claim 1, wherein the metal carbonyl is used in amounts of 0.1 to 10,000,000 molar equivalents.

15. (Amended) A method of preparing chemical libraries comprising

preparing a reaction mixture containing a non-catalysing solid CO releasing compound, which is a metal carbonyl of the general formula I,



wherein M is a metal, x is an integer, y is an integer, a non-metal substrate compound and a metal catalyst, wherein the metal carbonyl is not complexed with or bonded to the non-metal substrate prior to preparing said reaction mixture, and

exposing the reaction mixture to an energy source to release carbon monoxide from the CO releasing compound,

wherein the carbon atoms of the released carbon monoxide form a bond with a non-metal substrate compound.

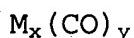
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17. (Amended) A method of preparing chemical libraries comprising preparing a reaction mixture containing a non-catalysing liquid CO releasing compound, which is a formamide of the general formula II,



wherein R₁ and R₂ independently can be H, optionally substituted, linear or branched alkyl, aryl or alkylaryl, a non-metal substrate compound and a metal catalyst; and exposing the reaction mixture to an energy source to release carbon monoxide from the CO releasing compound, wherein the carbon atoms of the released carbon monoxide form a bond with the non-metal substrate compound.

19. (Amended) A kit for organic reactions including CO as reactant comprising a selection of one or more solid or liquid CO releasing compounds, selected from metal carbonyls of the general formula I,



wherein M is a metal, x is an integer, y is an integer, or formamides of the general formula II,



wherein R₁ and R₂ independently can be H, optionally substituted, linear or branched alkyl, aryl or alkylaryl.